

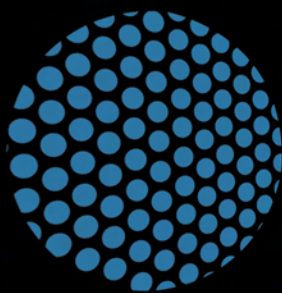
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# AIR FORCE POSTURE STATEMENT 2008

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DEPARTMENT OF THE AIR FORCE  
PRESENTATION TO THE HOUSE ARMED SERVICES COMMITTEE  
UNITED STATES HOUSE OF REPRESENTATIVES  
FISCAL YEAR 2009 AIR FORCE POSTURE STATEMENT

STATEMENT OF: THE HONORABLE MICHAEL W. WYNNE  
SECRETARY OF THE UNITED STATES AIR FORCE

GENERAL T. MICHAEL MOSELEY  
CHIEF OF STAFF OF THE UNITED STATES AIR FORCE

27 February 2008

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# Executive Summary

The United States Air Force provides the Nation with a powerful deterrent force in times of peace, and it sets the conditions for Joint and Coalition victory in times of war. For over seventeen years, since Operation DESERT SHIELD, the United States Air Force has been engaged in continuous combat operations. Our Airmen have maintained constant watch, deployed continuously, engaged America's adversaries directly, responded to human crises around the world, and provided the Global Vigilance, Global Reach, and Global Power to secure our Nation.

## Global Vigilance

The ability to gain and maintain awareness – to keep an unblinking eye on any entity – anywhere in the world; to provide warning and to determine intent, opportunity, capability, or vulnerability; then to fuse this information with data received from other Services or agencies and use and share relevant information with the Joint Force Commander.

## Global Reach

The ability to project military capability responsively – with unrivaled velocity and precision – to any point on or above the earth, and provide mobility to rapidly supply, position, or reposition Joint forces.

## Global Power

The ability to hold at risk or strike any target anywhere in the world, assert national sovereignty, safeguard Joint freedom of action, and achieve swift, decisive, precise effects.

Global Vigilance, Global Reach, and Global Power constitute America's edge – America's asymmetric advantage that shapes the global security environment. Global Vigilance, Global Reach, and Global Power are vital to our National Security Strategy, as conveyed through the decision superiority they allow, the military options they provide, and the influence they command. However, in a world of increasing uncertainty, volatility, and accelerating technology, America's edge will become a fleeting advantage if we fail to maintain and hone it.

The United States Air Force executes its missions globally. Its warfighting domains cover the entire planet, offering a unique perspective. Every day, America's Airmen demonstrate a non-negotiable commitment to offer and deliver sovereign options for the United States in, through and from air, space, and cyberspace.

Our Air Force strategic imperatives articulate why these sovereign options are necessary to maintain and strengthen our national security and global stability. The Air Force is redefining air, space, and cyber power through cross-domain dominance – our effort to integrate all of our capabilities to exploit the natural synergies across these warfighting domains.

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This Statement articulates the major elements of our Air Force Posture – our strategy for fulfilling our role in defending the Nation and its interests; our contributions to winning the Global War on Terrorism; our most critical efforts and concerns; and our top priority programs. We will continue to pursue specific programs and initiatives to safeguard and strengthen America’s military advantages and to address major concerns and risks

Three overarching Service priorities serve as the organizing principles for all of our efforts: Winning Today’s Fight; Taking Care of Our People; and Preparing for Tomorrow’s Challenges. The Air Force’s top acquisition priorities specifically begin to address our critical recapitalization and modernization needs – the new Tanker (KC-X); the new Combat Search and Rescue Helicopter (CSAR-X); modern space systems to provide capabilities vital to our Joint warfighters; the F-35A Lightning II; and a new Bomber we intend to field by 2018.

We will continue our efforts to modernize and protect America’s vital air, space, and cyberspace capabilities. We strongly recommend extending the existing C-130J production line. We are also concerned with preserving America’s aerospace industrial base. Additionally, we seek relief from restrictions on the retirement of aging, worn-out aircraft which are increasingly unsafe, unreliable, and obsolete. The Air Force is highly engaged in national efforts to assure sustainable energy, and we will continue to push the performance envelope on fuel efficiency and renewable energy technologies. We are committed to the Joint Basing initiative and want to work through the transfer of total obligation authority (TOA) and real property control without impacting command authorities, reducing installation service support, or negatively affecting quality of life. Finally, we will continue our practice of recruiting and retaining the world’s highest quality Airmen. We will build upon our successes in achieving Total Force Integration of our Regular, Guard, Reserve, and Civilian Airmen.

America looks to its Airmen to provide dominance that spans the air, space, and cyberspace warfighting domains. They need your support today to defend the Homeland and to prepare for tomorrow’s threats and challenges. Full funding and support for America’s Airmen will ensure America’s continued freedom of action; reassure our allies; strengthen our partnerships; reinforce our sovereign Homeland defenses; dissuade and deter adversaries; and set conditions for Joint and Coalition success across the entire spectrum of conflict and crisis.

**We guard the Nation – providing the Global Vigilance, Global Reach, and Global Power that underwrite the security and sovereignty of our Nation.**

# Strategic Imperative

**The mission of the United States Air Force is to deliver sovereign options for the defense of the United States of America and its global interests – to fly and fight in Air, Space, and Cyberspace.**

Today the United States stands at a strategic crossroads. This junction is characterized by a global economy accompanied by a diffusion of technology, new and increasingly complex economic and international relationships, competition for resources and influence, and the changing conduct of warfare. From the early days of the 20th Century, the United States has played a leading role in preserving and protecting international stability, particularly as the number of democratic nations grew. This leadership led in large part to the current world order and provided the backdrop against which countries like Japan, India, and China initiated their unprecedented economic growth. We cannot abdicate our position of political and military leadership without grave consequences.

## 2.1 Challenges

Today's confluence of global trends already foreshadows significant challenges to our organization, systems, concepts, and doctrine. We are at an historic turning point demanding an equally comprehensive redefinition of American air power. The future strategic environment will be shaped by the interaction of globalization, economic disparities, and competition for resources; diffusion of technology and information networks whose very nature allows unprecedented ability to harm and, potentially, paralyze advanced nations; and systemic upheavals impacting state and non-state actors and, thereby, international institutions and the world order. The following are salient features of this increasingly complex, dynamic, lethal, and uncertain environment:

- Violent extremism and ethnic strife – a global, generational, ideological struggle
- Proliferation of weapons of mass destruction and empowering technologies
- Predatory and unpredictable regional actors
- Increasing lethality and risk of intrusion by terrorist and criminal organizations
- Systemic instability in key regions (political, economic, social, ideological)
- Unprecedented velocity of technological change and military adaptation
- Availability of advanced weapons in a burgeoning global marketplace
- Exponential growth in volume, exchange, and access to information
- Surging globalization, interconnectivity, and competition for scarce resources
- Dislocating climate, environmental, and demographic trends

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The consequences of not being adequately prepared for a conflict should a military peer arise would be severe and potentially catastrophic. We must maintain our focus on deterring potential peer adversaries from using military threats to narrow our diplomatic options, or from embarking on militarily risky courses of action. The rapid development and proliferation of high-technology weapons, combined with innovative operational concepts, is likely to make these global and regional engagements particularly challenging, since power balances will be dynamic and the risks of miscalculation and misperception high. Therefore, maintaining deterrence will require a sophisticated, competitive strategy that assures we maintain required military capabilities for today and make sustainable, affordable investments for tomorrow.

Even if we continue to successfully dissuade and deter major competitors, their advanced equipment is proliferating worldwide. We are bound to confront these weapons systems wherever America engages to promote and defend its interests. We must also vigilantly monitor adversary breakthroughs and maintain leading edge research and capabilities in fields such as cybernetics, nanotechnology, biotechnology, electromagnetism, robotics, energy conversion technology, and advanced propulsion. We cannot assume the next military revolution will originate in the West. Indeed, the hub of innovation in science and engineering education has shifted eastward. Therefore, we must anticipate innovative combinations of traditional and new concepts, doctrines, weapons systems, and disruptive technologies.

**Given this spectrum of threats, the United States must field an Air Force capable of assuring our allies, dissuading and deterring potential adversaries, and, if necessary, defeating those who choose to become our enemies.**



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## 2.2 The Role of the U.S. Military

It is always better to deter hostile intent or win without having to fight. Today, the U.S. military does this by shaping the international environment with the potent tools of assurance, dissuasion, and deterrence. The principal role of the U.S. military is to defend our Nation and our national interests. Rooted in overwhelming capabilities and plainly linked to the national will, two powerful tools we exercise in this role are our assurance to allies that they need not bow to violent threats and our deterrence of potential adversaries. Our armed Services accomplish this role by providing a solid foundation of military strength to complement the tools of peaceful diplomacy. None of these tools alone can sustain our position of international political and economic influence. However, we must be prepared to provide our leaders with critical elements of U.S. military power to use in proper combination and in an integrated manner to address potential threats to our Nation and our interests.

## 2.3 Sovereign Options

In response to current and emerging threats, the Air Force has implemented a strategy based on providing policy makers with sovereign options for our defense, covering the spectrum of choices that air, space, and cyberspace capabilities offer for solving problems. We use this strategy for sovereign options to guide how we organize, train, and equip our forces. In peacetime, these options include such expedients as: supporting the containment of aggressive states or usurping elements of their sovereignty as a means short of war to compel positive behavior; signaling opponents of our commitment by moving forces into contested regions; and providing humanitarian aid – to both our allies and potentially hostile populations – to assure them of friendly U.S. intentions. In war, Air Force capabilities provide decision makers with a range of options, from supporting Joint and Coalition actions in conjunction with allied land and sea forces to direct strikes against enemy centers of gravity to accomplish strategic and tactical objectives. These options provide the country with credible and scalable counters to the full range of potential enemy actions and support our goals of assurance, dissuasion, and deterrence. These sovereign options are enabled by the asymmetric advantage the U.S. possesses in air and space technology and the way our preeminence in air, space, and cyberspace increases the power of all U.S. and Coalition forces.

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Through aggressive development of technology and operational concepts, the U.S. enjoys leadership in space, and in recent decades has achieved the ability to gain air supremacy against enemy air forces and air defense systems. The history of warfare, however, shows such advantages to be fleeting and fragile. Air and space preeminence is the key to the ability to accurately strike targets within enemy states or enable friendly ground or maritime forces to rapidly dominate their respective domains. While U.S. air and space preeminence has transformed the way the U.S. fights, allowing Joint and Coalition forces unprecedented freedom of action in all domains, the nation cannot rest on its laurels. Future preeminence is not guaranteed; instead, it must be planned, paid for, developed, and fielded.

More than the ability to win wars, sovereign options increase the nation's strategic flexibility in determining when, how, and where to engage an enemy. War is not a matter of convenience. When war is thrust upon us, we must have the strategic depth to shape the conditions of conflict. From 1991 to 2003, the use of no-fly zones allowed the U.S. to contain the aggressive actions of Saddam Hussein. When his aggressive acts drew us into open conflict, the determined use of air power as part of a Joint force crushed Iraq's conventional armies. A similar fate met the forces of Al Qaeda in Afghanistan. When the Taliban were removed from power in 2001 by a combination of air power working with Special Forces and indigenous Northern Alliance troops, we disrupted Osama bin Laden's plan to operate his global terrorist network from the relative sanctuary of the Afghan frontier. In the insurgencies that followed these operations, air, space and cyberspace power continued to prevent insurgents from massing into guerrilla armies, thus diminishing their power and providing friendly forces time and territory to establish stability.

The Air Force's ability to be simultaneously dominant in air, space, and cyberspace, has formed the foundation from which we provide sovereign options to policy makers. Our ability to operate across these domains and defeat our adversaries in each allows the Air Force the ability to multiply the power of Joint and Coalition forces or to act alone to achieve national objectives. Our Air Force combines capabilities in the domains of air, space, and cyberspace to deliver Global Vigilance, Global Reach, and Global Power to the Joint force.

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## 2.4 Cross-Domain Dominance

No future war will be won without air, space, and cyberspace superiority. Accordingly, the Air Force must be better postured to contend with both today's and tomorrow's challenges. To promote and defend America's interests through Global Vigilance, Global Reach, and Global Power, the Air Force must attain cross-domain dominance.

Airmen appreciate the interdependence of the air, space, and cyberspace domains – actions in one domain can lead to decisive effects in any and all domains. Cross-domain dominance is the ability to maintain freedom of action in and through the air, space, and cyberspace despite adversary actions. It permits rapid and simultaneous application of lethal and non lethal capabilities in these three domains to attain strategic, operational, and tactical objectives in all warfighting domains: land, sea, air, space, and cyberspace.

Through cross-domain dominance, the Air Force contributes to Joint freedom of maneuver in all warfighting domains. This, in turn, allows the Joint Force Commander to achieve desired outcomes across the full range of military operations, from humanitarian relief to preventing war via dissuasion and deterrence to inflicting strategic paralysis on implacable opponents. Without the Air Force's ability to present this spectrum of capabilities to the Joint Team in peace, crisis, and war, U.S. national security would be at risk.

## 2.5 Implementing the Strategy

The Air Force currently provides Joint and Coalition forces with an air bridge to the rest of the world and dominance on the battlefield. This hard-won capability to dominate air and space will only persist in coming decades if carefully nurtured.

The technology race continues. Today, opponents are studying our operations in Iraq and Afghanistan and are rapidly developing counters to aging U.S. air and space superiority technology. These adaptive competitors are translating lessons from recent conflicts into new warfighting concepts, capabilities, and doctrines specifically designed to counter U.S. strengths and exploit vulnerabilities. They are advancing in all domains. For example:

- “Generation 4-plus” fighter aircraft that challenge America's existing “4th Generation” inventory – and, thus, air superiority – with overwhelming numbers and advanced weaponry; sophisticated integration of electronic attack and advanced avionics; emerging low-observable technologies; and progressive, realistic, networked training
- Increasingly lethal integrated air defense systems (IADS) that threaten both our Airmen and aircraft, and could negate weapons used to suppress or destroy these systems

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- Proliferation of surface-to-surface missiles with growing range, precision, mobility, and maneuverability that are capable of delivering both conventional and non conventional warheads
  - Proliferation of unmanned aerial systems (UAS) capable of conducting low observable, persistent, intrusive missions in both lethal and non-lethal modes
  - Resurgence of offensive counterspace capabilities, including anti-satellite (ASAT) weapons, jamming, and blinding
  - Increasing ability of even marginal actors to surveil the disposition of U.S. and allied assets through widely-accessible, commercially-available means

In the coming years our advantage will significantly diminish if we do not keep pace by fielding new 5th Generation fighters, modern bombers, and modern satellites in sufficient numbers to counter the development of advanced anti-air and anti-space technologies and the inevitable export of those capabilities to potentially hostile states and non-state actors. We must provide our Airmen with the most exceptional tools for battle in order to sustain a durable and credible deterrent against our adversaries.

Equally worrisome is the rapidly shrinking aerospace industrial base. Historically, America's strength and ability to capitalize on advances in air and space technologies hinged largely on its vibrant and diverse aerospace industry. This advantage has deteriorated over the last decade.

Beyond advantages in technology and operational concepts, America's commitments abroad require an expeditionary Air Force that can engage forward in peacetime and fight forward in wartime. While long-range bombers and missiles are the ultimate guarantor of U.S. security and power, expeditionary presence reflects U.S. power and is the indispensable source of local and regional assurance, dissuasion, deterrence, and, ultimately, sovereign options. Engaging forward in times of peace and fighting forward in times of war are hallmarks of U.S. national security strategy. Therefore, the Air Force must have sufficient resources and capability to continue to maintain a sustainable, rotational base. We must retain sufficient manpower and force structure to project influence.

The mechanism to accomplish this is the Air and Space Expeditionary Force (AEF) that provides Joint Force Commanders with a trained and ready air, space, and cyberspace force to execute their plans. U.S. influence flows from permanent and expeditionary basing and serves to assure allies of U.S. commitment while deterring our adversaries from threatening U.S. national interests. The Air Force works with Combatant Commanders and partner air forces to secure basing and counter potential anti-access strategies. We continue to develop new ways of projecting power without exposing vulnerabilities, and we design systems that facilitate reach-back, thus maximizing forward capability while minimizing forward footprint.

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The Air Force can provide Global Vigilance, Global Reach and Global Power only so long as it possesses robust capabilities in such areas as air dominance; global strike; space superiority; intelligence, surveillance, and reconnaissance (ISR); missile defense; special operations; air mobility, and cyberspace superiority. Today, electronic communications constitute and connect all Joint and Coalition capabilities. In an information age, this network allows us to find our opponents, process the information, route it to where it is needed, and guide our munitions to their targets. Cyberspace vastly increases our capabilities but also presents a potential vulnerability our adversaries could exploit. Our enemies also increasingly use and depend on cyberspace systems. Safeguarding our own capabilities while engaging and disrupting the use and purpose of our opponents' capabilities is thus increasingly critical to modern warfare.

If the Air Force is to fulfill its crucial role, we must develop and maintain technological leads in the areas of air-superiority, anti-access penetration, and long-range reconnaissance and strike capabilities to hold at risk targets around the world. We must also field sufficient strike and full-spectrum mobility assets to assure dominance for the Joint Team. We must continue treating space as an operational domain by creating architectures and systems that allow us to provide the appropriate situational awareness and communications capability, giving strategic and tactical advantage to leadership at all levels. We must design and develop a force structure to operate in cyberspace to our benefit while holding adversaries at risk. While doing so, we will continue our series of cross-Service initiatives to enhance interoperability and avoid unnecessary duplication of acquisition, manning and operations.

# Win Today's Fight

We remain committed, first and foremost, to fighting and winning the long Global War on Terror (GWOT), sustaining our current operations, and providing strategic defense of our Nation. We also continue to adapt our ability to deter adversary activities, detect enemy locations, and defeat them through direct or indirect actions when required – anywhere and at any time.

America's Airmen are key to Joint success and have proven their capabilities applicable and adaptable across the entire spectrum of conflict. They are the most battle-tested force in our history. Today's GWOT missions are only the latest in a succession of over seventeen years of continuous combat and expeditionary operations, beginning with our initial Operation DESERT SHIELD deployments in August 1990; continuing with years of persistent conflict in Southwest Asia, Somalia, the Balkans, and Haiti; and through ongoing operations in Iraq, Afghanistan, and around the world. The past seventeen years have clearly demonstrated success at any point along the spectrum of conflict requires air, space, and cyberspace superiority.

## 3.1 Maintain Global Vigilance, Global Reach and Global Power for America

We are the Nation's premier multi-dimensional maneuver force, with the agility, reach, speed, stealth, payload, firepower, precision, and persistence to achieve global effects. Dominance of air, space, and cyberspace provides the essential bedrock for effective Joint operations.

Today's Air Force provides the Joint Force Commander a range of capabilities that set conditions for success. Our Airmen currently fly an average of over 300 sorties daily as part of Operations IRAQI FREEDOM and ENDURING FREEDOM (OIF/OEF). These sorties include Intertheater and Intratheater Airlift; Aeromedical Evacuation (AE); Aerial Refueling; Command and Control (C2); Intelligence, Surveillance, and Reconnaissance (ISR); Close Air Support (CAS); and pre-planned Strike.

Our Airmen operate on a global scale every day; Air Force engagement in the Central Command (CENTCOM) area of responsibility (AOR) is only the "tip of the iceberg." The complete picture of Air Force engagement includes Airmen deployed to contingencies outside of the Continental United States (OCONUS), forward deployed in Europe and the Pacific, and employed from their home stations as they execute global missions.

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Furthermore, the Air Force is the only Service flying Operation NOBLE EAGLE (ONE) missions, which have been continuous since September 2001. America's Airmen fly fighters, tankers, and Airborne Warning and Control aircraft during daily Air Sovereignty Alert operations. America's Airmen also command and control these aircraft, maintaining vigilance and protection of America's air corridors and maritime approaches in defense of our Homeland.

Since 2001 the Active Duty Air Force has reduced its end-strength by almost 6%, but our deployments have increased over 30% – primarily in support of GWOT. Approximately 26,000 Airmen are deployed to over 100 locations around the world to fight in the GWOT at any given moment – fighting our enemies in their own backyard so they cannot come to ours. In addition, approximately 208,000 Airmen – 178,000 Regular Air Force Airmen plus 30,000 Guard and Reserve Airmen – fulfill additional Combatant Commander (CCDR) requirements, missions and tasks 24 hours a day, seven days a week. In other words, approximately 41% of our Total Force Airmen – including 54% of the Regular force – are globally contributing to winning today's fight and are directly fulfilling CCDR requirements everyday.

Whether controlling satellites, flying unmanned aerial vehicles (UAVs), standing strategic missile alert, or analyzing intelligence information, Airmen directly engage America's adversaries and affect events worldwide every day.

### 3.1.1 Intelligence, Surveillance, and Reconnaissance

Intelligence, surveillance, and reconnaissance (ISR) is the foundation of Global Vigilance, Global Reach, and Global Power. It cuts across all domains and affects almost every mission area. Today, ISR efforts make up the majority of the operations required to achieve our security objectives. These operations range from finding the enemy, to deconstructing its network and intentions, to making it possible to deliver weapons or other effects on target, to subsequently assessing the results of those efforts.

Intelligence, Surveillance, and Reconnaissance is the linchpin of our Effects-Based Approach to Operations (EBAO). It is impossible to accurately predict the effect of operations on an enemy system without good intelligence; nor can one assess the outcome of delivered effects without detailed surveillance and reconnaissance. Intelligence requirements for an effects-based approach to operations and effects-based assessment (EBA) are much more demanding than the old attrition-based model. The increased intelligence detail necessary for EBAO/EBA makes focused reconnaissance and persistent surveillance operations even more crucial.



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The Air Force has demonstrated its commitment to the importance of ISR by establishing a 3-star Deputy Chief of Staff for ISR, the Air Force ISR Agency, and formed a global organization for the processing of ISR data from a variety of sources. These initiatives demonstrate the Air Force has shifted the way it manages ISR capabilities from a Cold War platform perspective to a 21st Century holistic capability-based approach.

### 3.1.2 Strike

In addition to our ONE missions over the Homeland, America's Airmen fly daily OIF and OEF missions, keeping a watchful eye on America's adversaries and providing lethal combat capabilities that take the fight to our enemies. In 2007, America's Airmen conducted nearly 1,600 strikes in Iraq and Afghanistan. In Iraq alone, Air Force strikes increased by 171% over the previous year, while in Afghanistan strikes increased by 22%. These increases clearly demonstrate the applicability, flexibility, and prevalence of Air Force combat options in ongoing OIF and OEF counterinsurgency operations.

Engaging directly is only a small portion of what the Air Force provides. To meet current and future challenges, we must maintain a credible deterrent that convinces potential adversaries of our unwavering commitment to defend our Nation, its allies and friends. One prominent example is our ICBM force – the U.S. nuclear arsenal continues to serve as the ultimate backstop of our security, dissuading opponents and reassuring allies through extended deterrence. Besides continuing the re-capitalization of our fighter force, we must also modernize our bomber and ICBM forces.

### 3.1.3 Space

Space superiority, like air superiority, has become a fundamental predicate to Joint warfighting. Indeed, America's space superiority has completely transformed the way America fights. America's Airmen currently operate 67 satellites and provide command and control infrastructure for over 140 satellites in total, providing the nation persistent global communications; weather coverage; strategic early warning; global Positioning, Navigation and Timing (PNT); signals and ISR capabilities – all vital to Joint success.

Space superiority relies on assured access to space, and Air Force launch programs continue to provide this capability. In 2007, we extended our record to 56 straight launch successes, including deployment of two new Global Positioning System (GPS) satellites. Also in 2007, we successfully launched the first operational Evolved Expendable Launch Vehicle (EELV) heavy lift rocket. This rocket deployed the final satellite in the Defense Support Program (DSP) constellation of ballistic missile warning satellites.



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## 3.1.4 Airlift

Airlift is an Air Force core competency, and our Airmen prove it everyday. Air Force airlifters – both Intertheater and Intratheater – have become absolutely indispensable to Joint Forces in Iraq and Afghanistan as well as to crisis response planners and responders in the wake of natural disasters both at home and abroad. The Air Force gives America an air bridge – a strategic asset providing operational reach – making possible the deployment and employment of Joint combat power and humanitarian relief.

Airmen provide the Nation's ground forces with the tactical, operational, strategic, and logistical reach to rapidly deploy, deliver, supply, re-supply, egress, and evacuate via air anywhere in the world. In Iraq, Air Force airlift delivers approximately 3,500 equivalent truckloads of cargo in an average month, taking more than 8,600 people off dangerous roads and providing the Army and Marine Corps the flexibility to re-assign those vehicles and associated support troops to alternate missions and safer routes.

## 3.1.5 Aeromedical Evacuation

Air Force Aeromedical Evacuation (AE) is a Total Force, combat-proven system contributing a unique, vital capability to the Joint fight. AE and enroute care are built on teamwork, synergy, and Joint execution, providing Soldiers, Sailors, Marines, Coast Guardsmen, and Airmen the highest casualty survival rates in the history of warfare. Casualties treated in our deployed and Joint theater hospitals have an incredible 97% survival rate.

Since late 2001, we have transported more than 48,500 patients from the CENTCOM AOR to higher levels of care. We continue to refine this remarkable capability and the enroute care system built upon our expeditionary medical system.

## 3.1.6 Joint Force Land Component Tasks

Of the approximately 26,000 Airmen currently deployed in the CENTCOM AOR, over 6,200 are performing tasks and missions normally assigned to the Land Component – also known as “In Lieu Of” (ILO) tasks. Airmen currently fill other Services' billets in some of their stressed skill areas and are taking on tasks outside Air Force core competencies. Since 2004 we have deployed approximately 24,000 Airmen in support of such ILO tasks, and we expect a steady increase in that total.

In addition to the 6,200 Airmen currently deployed supporting ILO taskings, over 1,000 Airmen are “in the pipeline” for ILO Task training at any given time. Within the Joint Team, Airmen provide the Joint Force Commander distinctive skills. While complementary, these skills are not interchangeable amongst the team, thus Airmen require ground-

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centric combat training to accomplish ILO taskings. This training increases personnel tempo (PERSTEMPO) for our Airmen, but, more importantly, ILO tasks and training consumes critical training time, resources, manpower, and in some cases reduces overall proficiency in Air Force core mission areas. In many cases, Air Force career fields already at critical manning levels are further affected by unit deployment rates of as high as 40%, primarily filling ILO taskings. Such high deployment rates from units cannot be absorbed without putting at risk the critical missions and capabilities the Air Force provides our Nation. This situation creates additional risk to the critical missions the Air Force performs and capabilities the Air Force provides our Nation.

## 3.2 Strengthen Global Partnerships

Fighting and winning the GWOT requires commitment, capability, and cooperation from our allies and partners around the world. We depend on them to secure their territory, support regional stability, provide base access and overflight rights, and contribute a host of air, space, and cyber power capabilities as interoperable Coalition partners.

So America's strategic partnerships are more important than ever. Our Air Force will strengthen and broaden international relationships, capitalizing on the global community of like-minded Airmen while attending to interoperability between allies and partners. Building these relationships not only expands, extends, and strengthens Global Vigilance, Global Reach, and Global Power, but also leverages the Air Force's value as an engine of progress and, thus, as a potent instrument of America's diplomacy in an increasingly interconnected world.

The Air Force strives to develop synergistic, interoperable air forces utilizing a capabilities-based approach. Foreign Military Sales and Direct Commercial Sales allow our partners to operate common systems with the Air Force while providing a vehicle to expand relationships with our international partners. Some recent examples of mutually beneficial agreements include Australian, Canadian, and British selection of C-17 Globemaster III airlifters; international participation in the F-35A Lightning II Joint Strike Fighter (JSF) program and the Advanced Extremely High Frequency (AEHF) satellite communications program; British Royal Air Force procurement of MQ-9 Reaper UAVs; and Australian participation in the Wideband Global SATCOM (WGS) system. Future opportunities for partnerships – with platforms such as UAVs, C-17s, C-130Js, and the new C-27 – can open doors for greater interoperability, personnel exchanges, common doctrine, and training.

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In addition to integrating international partners into the most robust combat training scenarios, we maintain our commitment to the pursuit of partnerships for greater global cooperation, security, and stability. We recently held the 3rd Global Air Chiefs Conference in Washington, DC, which gave over 90 international Air Chiefs the opportunity to learn, understand, and share concerns and issues with fellow Airmen from around the world. We are also making strides to improve language expertise and cultural understanding through deliberate development of Airmen in the International Affairs Specialist program, expanding Military Personnel Exchange Program, and cultivating skilled and knowledgeable attachés.

The Air Force's approach to operations, interoperability and training exemplify our global, international, and expeditionary perspective – built on the shared traditions of airmanship that transcend geographic boundaries.

# Take Care of Our People

Any organizational renaissance begins with people. We must prepare our Airmen for a future fraught with challenges, fostering their intellectual curiosity and ability to learn, anticipate, and adapt. Because our expeditionary Airmen must be prepared to deploy and ready to fight, we are revitalizing the world's most advanced training system and expanding their educational opportunities. While we enrich our Airmen's culture, leadership, training, education, and heritage, we will also continue to care for their families and provide for their future.

Our Airmen are our most precious resource. They must be well-trained and ready for expeditionary warfighting responsibilities. Fiscal constraints dictate that we continue to carefully shape the force. Additionally, within the context of rising costs, we remain committed to providing the highest possible quality of life standards and charting out a career full of education and training for each Airman. We will continue our emphasis on recruiting and retaining the world's highest quality Airmen. Additional Air Force high priority efforts serve to reinforce a warrior ethos throughout our Service, provide proactive force health protection, and encourage Air Reserve Component (ARC) volunteerism.

Spanning six decades of Air Force history, particularly over the past seventeen years, our Airmen have proven themselves as the global first responders in times of crisis – taking action anytime, anywhere. The foundations for this well-deserved reputation are the quality and frequency of the training and education we provide and our commitment to the highest possible safety and quality of life standards.

## 4.1 Shape the Force

Ultimately, we must produce a Total Force that is sized and shaped to consistently meet current and future requirements – balanced against the compelling need to maintain high quality of life standards – to meet the global challenges of today and tomorrow.

During the 1990s, while engaged in continuous combat, the Air Force suffered a seven year “procurement holiday.” Today, fiscal constraints have tightened as energy and health care costs have continued to increase dramatically.

In late 2005, the Air Force reduced its end strength by 40,000 Active Duty, Guard, Reserve and civilian Full-time Equivalents (FTEs) in order to self-finance the vital re-capitalization and modernization of our aircraft, space, and missile inventories. End strength reduction by 40,000 FTEs over a 3-year period was our only viable alternative to preserve the required investment capital.

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Our Force Shaping efforts have placed us on a path to meet our end strength targets. However, personnel changes of this magnitude come with a degree of uncertainty and difficulty for our Airmen and their families. We are making every effort to use voluntary measures to shape the force with the right skills mix, increase manning in stressed career fields, leverage new technologies, and refine our internal processes to reduce workload and reduce or eliminate unnecessary work through Air Force Smart Operations 21 (AFS021).

We have reduced our Air Force end strength using a methodology that has preserved a strong expeditionary capability. Our AEF construct provides an enterprise view of Service risk that synchronizes our resources and assets to support our global requirements. However, reducing Air Force end strength further, coupled with ILO taskings for the foreseeable future, carries considerable risks of “burning out” our Airmen in several critical expeditionary career fields as well as limiting our future national options to meet global mission requirements in an increasingly volatile world.

## **4.2 Ensure Highest Quality of Life Standards**

Our “People” priority demands we ensure the quality of life we offer our Airmen meets the highest possible standards. Because the nature of our Air Force mission demands a highly educated, trained, and experienced force, we recognize the direct linkages between quality of life issues and their impact on our recruiting, retention, and, ultimately, our mission capability.

### **4.2.1 Housing and Military Construction**

Air Force investments in housing underscore our emphasis on developing and caring for Airmen. Through Military Construction (MILCON) and housing privatization, we are providing higher quality homes faster than ever. With the FY09 funding, we will revitalize more than 2,100 homes through improvement or replacement. We are on track to meet our FY09 goal of eliminating inadequate housing at overseas locations.

MILCON is an essential enabler of Air Force missions; however, due to fiscal constraints, we must reduce funding and accept greater risk in facilities and infrastructure in order to continue our efforts to recapitalize and modernize our aging aircraft and equipment. However, our new construction projects are state of the art, incorporating energy efficient features and sustainable designs. We have prioritized the most critical requirements to support the Air Force and DoD requirements. Our MILCON plan supports these priorities by focusing on new mission beddowns, training, and depot transformation, as well as dormitory and child care center upgrades.

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## 4.2.2 Joint Basing

The Air Force has a long and successful history of working toward common goals in a Joint environment without compromising Air Force principles and the well-being of our people. Joint Basing initiatives are no exception. To guarantee success, each Joint Base should be required to provide a suitable setting to all of its assigned personnel, their families, and other customers within the local communities our bases support.

To accomplish this, we advocate establishment of a common Joint Base quality of life standard. Our Airmen, Soldiers, Sailors, Marines, DoD Civilians and their families will benefit from efficient, consistent installation support services. Such standards will ensure the Air Force and our sister Services continue to provide all personnel with the level of installation support services they deserve. As we work with the Office of the Secretary of Defense and our sister Services, we will ensure all Joint Basing initiatives contribute to the DoD's ability to perform its mission. We will also safeguard against potential negative impacts to the Joint and Air Force approach to mission performance.

To do this, we will have to work through the transfer of TOA and real property without eroding the local installation commander's prerogatives relative to satisfying mission and training requirements, optimizing installation resources, tailoring installation services to local needs, and prioritizing MILCON funding. We will also have to work through the transfer without reducing the combat capability our bases generate, installation service support standards, or the quality of life for Service members, their families, and other customers of these services.

We look forward to establishing a BRAC-envisioned executive agency agreement involving local leaders and the local unit commander. Such an agency, combined with elimination of duplicate offices and administration of centrally agreed standards, would improve efficiency while safeguarding mission requirements and quality of life for families and Service members. We believe the natural, direct feedback and tension between a service provider and a paying customer is the best model to drive efficiency and cost savings.

The Air Force remains committed to ensuring that all bases, Joint or otherwise, maintain their capability to perform their missions and meet our quality of life standards. We want Joint Bases to be so efficient and effective that an assignment to a Joint base would be a highlight for every Service member.

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## 4.3 Recruit, Train and Retain Highest Quality Airmen

The Air Force is the “Retention Service” – we recruit, train, develop, and retain the best America has to offer. Our emphasis on retention stems from the high technical and operational expertise required of our personnel. The high morale, cohesiveness, and capability of the Air Force are due to our efforts to retain a highly experienced, educated, and skilled force.

The Air Force has never lowered its recruiting standards. We continue to recruit and choose the best America has to offer from our diverse population. Our recruiting and retention figures remain impressive, clearly indicating our success to date and the effectiveness of the Air Force’s holistic approach to quality of life, recruiting, and retention. This success reaffirms our commitment to long-term family support efforts, education, and training.

While we recruit Airmen, we retain families. We believe our Airmen should never have to choose between serving their country and providing for their families. Quality of life and family support are critical elements of our overall effort to retain high quality Airmen. As part of our efforts to maintain high quality of life standards, we are concerned with the hardships facing our Air Force families resulting from the frequent moves our Airmen and other Service members make throughout their careers. We applaud ongoing Congressional and interstate efforts addressing such issues as transfer of educational credits for military members and dependents, professional certifications for military spouses, and economic support for military families coping with spousal income disadvantages.

Additionally, Air Force training initiatives continue to evolve, improving our ability to develop and retain the world’s best air, space, and cyberspace warriors. We are concentrating our efforts to reprioritize Air Force professional education opportunities to reflect a balance between winning today’s fight and preparing for tomorrow’s challenges.

Tuition assistance continues to be a strong incentive that helps ensure we meet our recruiting and retention goals. We believe voluntary education, facilitated with tuition assistance, not only aids in recruiting and retention, but further reinforces national strength and richness by producing more effective professional Airmen and more productive American citizens for the Nation, both during their enlistment and their eventual return to civilian life.

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Within the last two years we have taken several initiatives to “intellectually and professionally recapitalize” our Airmen. We are developing leaders with the management acumen, cultural sophistication, international expertise, and language skills to successfully lead a diverse, globally engaged force. Air Education and Training Command and Air University are leading our efforts to reinvigorate the world’s most advanced educational system for Airmen by expanding our full-spectrum educational opportunities.

Finally, we optimized and expanded our training regimes to take advantage of more modern methods and broader scope in our live exercises. RED FLAG exercises now offer two venues, Nevada and Alaska, with varied environments; take advantage of Distributed Mission Operations technologies; include Total Force Airmen from the Regular and Reserve Components; and offer the full range of integrated operations, offering realistic training for warriors from across the Services, Components, and our international partners.



# Prepare for Tomorrow's Challenge

In addition to taking care of our Airmen and training them for the full-spectrum challenges we expect this Century, it is also our responsibility to ensure our Airmen have the weapons and equipment necessary to provide for our Nation's defense.

The U.S. cannot take advantages in air, space, and cyberspace for granted. Today, we are already being challenged in every warfighting domain. The Air Force is actively formulating innovative operational concepts to anticipate, adapt to, and overcome future challenges. We are transforming our thinking from considering the space and cyber domains as mere enablers of air operations to a holistic approach that recognizes their interdependence and leverages their unique characteristics. We will continue to push this conceptual envelope and expand the boundaries of existing tactics, techniques, and procedures to fully exploit the synergies of cross-domain dominance.

But we cannot hone America's edge without modernizing the Air Force's air, space, and cyberspace capabilities. We are therefore pursuing the biggest, most complex, and most important recapitalization and modernization effort in Air Force history. These programs will gain and maintain militarily important advantages for our Nation for the coming decades.

## 5.1 Top Acquisition Priorities

The Air Force's top acquisition priorities begin to address our critical recapitalization and modernization needs – the new Tanker (KC-X); the new Combat Search and Rescue helicopter (CSAR-X); modern space systems to provide capabilities vital to our Joint warfighters; the F-35A Joint Strike Fighter; and a new Bomber we plan to field by 2018.

Additional high-priority acquisition programs include F-22 5th Generation fighter production; C-17 production; continued production of the C-130J and introduction of the C-27 intratheater airlifter; and expansion of the MQ-1 Predator, MQ-9 Reaper, and RQ-4 Global Hawk UAV inventories.

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### 5.1.1 New Tanker (KC-X)

The KC-X is our highest procurement priority. It is critical to the entire Joint and Coalition military team's ability to project combat power around the world, and gives America and our allies' unparalleled rapid response to combat and humanitarian relief operations alike. KC-X tankers will provide increased aircraft availability, more adaptable technology, more flexible employment options, and greater overall capability than the current inventory of KC-135E and KC-135R tankers they will replace. It is imperative we begin a program of smart, steady reinvestment in a new tanker – coupled with measured, timely retirements of the oldest, least capable KC-135E tankers – to ensure future viability of this unique and vital U.S. national capability.

### 5.1.2 New Combat Search and Rescue Helicopter (CSAR-X)

The Air Force organizes, trains, and equips dedicated forces for the Combat Search and Rescue (CSAR) mission. The Air Force must recapitalize our CSAR forces to maintain this indispensable capability for the Nation and the Joint Team. Purchasing the entire complement of programmed CSAR-X aircraft will relieve the high-tempo operational strain placed on the current inventory of aging HH-60G Pave Hawk helicopters.

The CSAR mission is a moral and ethical imperative. Airmen are responsible for safely securing and returning our Airmen and members of the Joint and Coalition team. The CSAR-X helicopter will provide a more reliable, more responsive capability for rapid recovery of downed, injured, or isolated personnel in day or night, all weather and adverse conditions, as well as support non-combatant evacuation and disaster relief operations.

### 5.1.3 Space Systems

Air Force communications, ISR, and geo-positioning satellites are the bedrock of the Joint Team's ability to find, fix, target, assess, communicate, and navigate. While many of our satellites have outlived their designed endurance, they are generally less durable than other platforms and sensors. Over the next ten years we must recapitalize all of these systems, replacing them with new ones that enhance our capabilities and provide mission continuity, maintaining the asymmetric advantages our space forces provide our Nation.

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The WGS system, AEHF, and the Transformational Satellite Communications (TSAT) program will assure a more robust and reliable communications capability designed to counter emerging threats and meet expanding Joint communications requirements.

The GPS II-F and III programs will add a more robust PNT capability to America's established GPS constellation. GPS III will utilize a block approach to acquisition and will deliver enhanced civil and military PNT capabilities to worldwide users.

The Space Based Infrared System will enhance the Air Force's early warning missile defense, technical intelligence, and battlespace awareness capabilities through improved infrared sensing, missile warning, and data processing.

The Air Force will continue to develop space situation awareness (SSA) capabilities to help protect space assets from future threats. We are also pursuing more robust space protection measures to warn of attacks, provide redundant command and control, harden electronics, and defend against direct attacks. The Space Based Space Surveillance (SBSS) system will be the first orbital sensor with a primary mission of SSA. This system, along with other developments such as the Rapid Attack Identification Detection and Reporting System will improve our ability to characterize the space environment – the friends and foes operating in it, and the objects traversing it.

## 5.1.4 F-35A Lightning II (Joint Strike Fighter)

The F-35A Lightning II will be the mainstay of America's future fighter force, providing an affordable, multi-role complement to the F-22 Raptor. In addition to fielding advanced combat capabilities, the Lightning II will also strengthen integration of our Total Force and will enhance interoperability with global partners.

The F-35A Lightning II boasts 5th Generation, precision engagement, low-observable (stealth), and attack capabilities that will benefit not only the Air Force, but also the Navy, Marines, and our international partners involved in the program. The F-35A is the Conventional Take-off and Landing (CTOL) variant, and it will replace, recapitalize, and extend Air Force F-117, F-16, and A-10 combat capabilities. The F-35A also serves as the recapitalization program for our international partners' aging F-16s, F-18s, and other 4th Generation fighter aircraft.

Complete dominance of the air and freedom of maneuver for the entire Joint force demand the complementary capabilities of the F-22 and F-35A 5th Generation of fighters. Together, they promise the ability to sweep the skies, take down the enemy's air defenses, and provide persistent, lethal air cover of the battlefield. The leading edge capabilities of the F-35A, in development and low rate production now, will provide an affordable, Joint Service, international complement to the F-22.

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## 5.1.5 New Bomber

Range and payload are the soul of an Air Force. These capabilities, along with precision, lethality, survivability, and responsiveness are fundamental to modern strategic military deterrence, and apply across the full range of military operations – from tactical to strategic, kinetic to non-kinetic. And yet our nation has just twenty-one bombers currently capable of penetrating modern air defenses. Even these B-2 Spirit stealth bombers have limitations and will become relatively less capable and less survivable against advanced anti-access technologies being developed and fielded around the world. Furthermore, our current bomber inventory is becoming more costly to operate and maintain. Indeed, some suppliers for spare parts no longer exist.

The Air Force is therefore pursuing acquisition of a new Bomber by 2018 and in accordance with Quadrennial Defense Review goals for long range strike capability. This next generation bomber will feature stealth, payload, and improved avionics/sensors suites, and will incorporate highly advanced technologies. It will also bring America's bomber forces up to the same high standard we are setting with our F-22 and F-35A 5th Generation fighters, and ensure our bomber force's ability to fulfill our Nation's and the Combatant Commanders' global requirements.

## 5.2 Improve our Global Vigilance, Global Reach and Global Power

Because Global Vigilance, Global Reach, and Global Power constitute America's edge, we must continually hone our ability to provide them. Our acquisition programs aim to broaden Global Vigilance, extend Global Reach, and strengthen Global Power advantages for America.

### 5.2.1 Broaden Global Vigilance

The Air Force provides the global eyes and ears of the Joint Team and our Nation. Using a vast array of terrestrial, airborne, and spaceborne sensors, we monitor and characterize the earth's sea, air, space, land, and cyberspace domains around the clock and around the world. The information collected through surveillance and reconnaissance, and converted into intelligence by exploitation and analysis, is used to formulate strategy, policy, and military plans; to develop and conduct campaigns; guide acquisition of future capabilities; and to protect, prevent, and prevail against threats and aggression aimed at the U.S. and its interests. It is relied upon at levels ranging from the President and senior decision makers to commanders in air and space operations centers to ground units engaged with the enemy to pilots dropping precision-guided munitions.

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The future vision of all the U.S. military Services is information-driven. Success will hinge on America's integrated air, space, and cyberspace advantages. Air Force assets like the E-8C Joint Surveillance Target Attack Radar System, E-3 Airborne Warning and Control System, RC-135 Rivet Joint, RQ-4 Global Hawk, MQ-1 Predator, and our constellations of satellites contribute vital ISR capabilities and networking services that are integral to every aspect of every Joint operation. Our recapitalization and modernization plan aims to dramatically increase the quantity and quality of ISR capabilities, products, and services available to the Joint Team and the Nation. Our recapitalization efforts are focused on extending the lifespans and capability sets of our workhorse platforms, such as the RC-135 Rivet Joint and several space-based assets. We are also working to find and leverage previously untapped ISR capabilities such as those on fighters carrying targeting pods. Finally, we have made a concerted effort to ensure the viability of Air Force space communications, PNT, early warning missions, and SSA capabilities to provide uninterrupted mission continuity for America and our allies.

## 5.2.2 Extend Global Reach

America's Airmen provide the long legs and lift for Joint warfighters' rapid global mobility as well as the long arms for global strike and high endurance for global persistence and presence. On a daily basis, Air Force intertheater and intratheater airlift and mobility forces support all DoD branches as well as other government agency operations all over the world. Yet the increased demand for their capabilities and their decreased availability underscore the critical need for tanker recapitalization and investment to ensure the long-term viability of this vital national capability.

## 5.2.3 Strengthen Global Power

The U.S. Air Force provides the ability to achieve precise, tailored effects whenever, wherever, and however needed – kinetic and non-kinetic, lethal and non-lethal, at the speed of sound and soon at the speed of light. It is an integrated cross-domain capability that rests on our ability to dominate the air, space, and cyberspace domains.

The Global Power advantages the Air Force provides the Joint Team ensure freedom of maneuver, freedom from attack, and freedom to attack for the Joint Team. However, failure to invest in sufficient quantities of modern capabilities seriously jeopardizes these advantages and risks the lives of our Soldiers, Sailors, Airmen, and Marines.

## 5.3 Retire Aging, Worn Out Aircraft

The Air Force has been in continuous combat since 1990 – 17 years and counting – taking a toll on our people and rapidly aging equipment. While we remain globally engaged, we recognize the imperative of investing in the future through recapitalization

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and modernization. Beyond fielding new aircraft, we must also retire significant portions of our oldest, most obsolete aircraft if we are to build a modern, 21st Century Air Force. Our aircraft inventories are the oldest in our history, and are more difficult and expensive to maintain than ever. They require a larger footprint when deployed, and are significantly less combat-capable in today's increasingly advanced and lethal environment. In the years ahead they will be less and less capable of responding to or surviving the threats and crises that may emerge.

Since 2005, we have attempted to divest significant numbers of old, worn out aircraft. However, legislative restrictions on aircraft retirements remain an obstacle to efficient divestiture of our oldest, least capable, and most costly to maintain aircraft. Lifting these restrictions will alleviate considerable pressure on our already constrained resources that continue to erode our overall capabilities.

## 5.4 Preserve America's Aerospace Industrial Base

America's public and private aerospace industrial base, workforce, and capabilities are vital to the Air Force and national defense. The aerospace industry produced the brainpower, innovations, technology, and vehicles that propelled the U.S. to global leadership in the 20th Century. The aerospace sector gave birth to the technologies and minds that have made the information age a reality. This key industrial sector continues to lead and produce the technologies and capabilities America needs to safeguard our future.

Yet this vital industry has deteriorated over the last decade. We have witnessed an industry consolidation and contraction – from more than ten domestic U.S. aircraft manufacturers in the early 1990s to only three prime domestic aircraft manufacturers today. Without funding, in the coming decade production lines will irreversibly close, skilled workforces will age or retire, and companies will shut their doors. The U.S. aerospace industry is rapidly approaching a point of no return. As Air Force assets wear out, the U.S. is losing the ability to build new ones. We must reverse this erosion through increased investment.

We must find ways to maintain and preserve our aerospace industrial capabilities. We must maintain national options for keeping production lines open. Complex 21st Century weapons systems cannot be produced without long lead development and procurement actions. Additionally, we must continue our investment in a modern, industrial sustainment base. Air Force depots and private sector maintenance centers have played vital roles in sustaining our capabilities and have become models of modern industrial transformation. We are fully committed to sustaining a healthy, modern depot level maintenance and repair capability.

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Furthermore, we must recognize that these industry capabilities represent our national ability to research, innovate, develop, produce, and sustain the advanced technologies and systems we will continue to need in the future. This vital industrial sector represents a center of gravity and single point vulnerability for our national defense.

## 5.5 Extend Production

Acquisition programs set the stage to field future capabilities. So we must make prudent decisions to maintain current production of advanced systems in order to reach required force structure goals and provide a hedge against future uncertainty. For example, we must maintain and extend the existing production line for C-130J intratheater airlifters. This aircraft represents America's best technology and capability.

We strongly recommend taking action to ensure these vital production lines remain open. Maintaining current production lines will be critical to revitalizing our force structure, setting conditions for future success, and providing America with the option – should conditions dictate – to produce additional modern, advanced technology aircraft without having to start from square one.

## 5.6 Strengthen Total Force Integration

The Air Force is dedicated to ensuring our States and Nation get the most combat effective, most efficient force possible to accomplish our mission faster and with greater capacity, around the world and at home. We believe integrating our Total Force is the best way to do that.

America's Airmen set the DoD standard for Reserve Component integration. The Air Reserve Component (ARC) – comprised of the Air National Guard (ANG) and the Air Force Reserve Command (AFRC) – is an operational reserve and an essential element of the U.S. Air Force. We are developing concepts, strategies, force management policies and practices, and legal authorities to access sufficient ARC forces without the need for involuntary mobilization. Though the Air Force is already the model for melding its Guard, Reserve, and civilians with its Regular Air Force elements, we can and will push this synergy to new levels.

A distinguishing hallmark of the Air Force is the ease with which Total Force Airmen work seamlessly together at home and abroad. From the first Reserve Associate unit in 1968 to the full integration of Guard and Reserve units into the AEF in the 1990s, the Air Force has a well-established history of employing Airmen from all components in innovative and effective ways.



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Total Force Integration (TFI) represents a long-term Air Force commitment to transformation. TFI maximizes the Air Force's overall Joint combat capability, forming a more cohesive force and capitalizing on the strengths inherent within Regular, Guard and Reserve elements. Including the ARC in emerging mission areas increases the Air Force's ability to retain critical skills should Airmen decide to transition from the Regular Air Force to the ARC. We will continue to review policies and practices – through our Continuum of Service initiative – to optimize sustainment support to the warfighting force and further integrate personnel management across the Total Force. TFI will be critical to meeting the challenges of competing resource demands, an aging aircraft inventory, and organizing, training, and equipping for emerging missions.

We are leveraging our Total Force to the greatest extent ever. We expect the Total Force to produce the vanguard elements we will need as we expand our leading role in cyberspace and explore new cyber technologies. Many of our most experienced cyber warriors, having attained the high level of expertise required to excel in this domain, are found in our Guard, Reserve, and Civilian ranks.

## 5.6.1 Total Force Roadmap

As an integral element of our procurement efforts, we have built a global Total Force Roadmap for acquiring and basing new aircraft and equipment. Just as our AEF construct seamlessly draws upon all of the Total Force components, the beddown of future Air Force aircraft and equipment integrates Regular, Guard and Reserve Airmen beginning with the first phases of production and basing through Full Operational Capability.

The Roadmap represents a more efficient and flexible force structure. Although the Air Force will have a smaller total aircraft inventory compared to our current inventory of aircraft, overall Air Force capabilities will increase with each next-generation weapons system. In numerous instances, the potential locations will capitalize on Total Force Integration efforts, creating innovative organizational arrangements among Regular, Guard, and Reserve components. This effort takes advantage of the inherent strengths of each component.

The Air Force Roadmap provides a planning construct for the future which, if adequately resourced, will result in the required force structure that will give our Nation the best capability for Global Vigilance, Global Reach, and Global Power across the globe; to reassure allies, to dissuade, deter, and defeat adversaries; and to protect the Homeland.



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## 5.7 Secure the Future

To maximize the potential advantages of our programs in the future, the Air Force is engaging in multiple initiatives to better organize, train, and equip our forces. Whether harnessing the complementary capabilities of the F-22 and F-35A programs to provide Air Dominance for the Joint Team; strengthening our National Security Space Enterprise; leading efforts to acquire interoperable Unmanned Aerial Systems (UAS); developing Cyber Warriors; or pursuing alternative energy solutions with environmentally safe production processes, the Air Force continues to investigate and embrace opportunities to secure Global Vigilance, Global Reach, and Global Power for our Nation's future.

### 5.7.1 Strengthen Joint Air Dominance

America's Airmen are understandably proud of their contributions to the Joint fight. Airmen have prevented enemy aircraft from inflicting any U.S. ground force casualties for over 50 years, and our Nation must maintain the required capability advantages to continue this record in the future. With advancing technology and proliferating threats, the Nation also needs the right equipment for the Homeland Defense mission to protect civilians on American soil.

The F-22 Raptor and the F-35A Lightning II JSF are leading-edge, modern, 5th Generation fighters. They are not modernized versions of old designs. These aircraft reap the benefits of decades of advanced research, technology development, open architecture design, and operational experience. These fighters are furthermore designed to be complementary – the F-22 being superior in speed and maneuverability, and the F-35A being optimized for ground attack and multi-role capabilities. These fighters will provide the advanced warfighting capabilities, aircraft system synergies, and the flexibility and versatility required in future environments and engagements.

Currently in production and fully operational with Total Force units in Virginia and Alaska, and with units planned for New Mexico and Hawaii, the F-22 is the newest member of the Air, Space, and Cyber Expeditionary Force. Airmen are putting the Raptor through its paces – flying and deploying the world's first and only operational 5th Generation fighter. Its attributes of speed, stealth, maneuverability, internal weapons carriage, advanced sensors, and adaptable, integrated avionics will meet our Nation's enduring national security requirements to gain and maintain Joint air dominance in anti-access environments; provide powerful sensing capabilities and battlespace situational awareness; and precisely engage a broad range of surface targets.

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It is vital to our national interests that 5th Generation fighter production capability be preserved. This year the F-35A will continue development and begin its ramp-up to full rate production in 2014. Continuing production ensures the aerospace industry keeps its technical edge, maintains an able workforce to respond to uncertainties, and preserves critical skills and production suppliers. Uninterrupted production in sufficient numbers of 5th Generation fighters remains the lowest risk strategy and best future guarantee for homeland air sovereignty and Joint air dominance.

## 5.7.2 Lead Joint Unmanned Aircraft System Operational Development

The Air Force is the world leader for successful, innovative, and effective development, acquisition, and operation of Unmanned Aircraft (UA) and the UAS that incorporate UAs and the command and control (C2) networks and equipment to employ them. Future successful Joint UAS acquisitions and operations hinge upon execution of three critical elements, which align cohesively with Joint doctrine:

**Develop Joint UA CONOPS.** UA operators serve the global Joint mission through interoperability and interdependence. Globally- and Jointly-integrated UAS operations and capabilities – from strategic to tactical – are necessary for Joint success. CONOPS development must focus on accomplishing the Joint mission as opposed to serving functional components.

**Standardize and Streamline UAS Acquisitions.** We must develop an affordable Joint acquisition strategy for future UAS development, organization, and employment. Air Force acquirers and operators pioneered UAS development and application in Joint warfare, and have established best practices for organizing, training, standardizing, and equipping the world's most effective UAS operations squadrons.

**Ensure Airspace Control and Awareness.** Presentation of UA forces and capabilities must meet Joint Commander requirements and objectives. “Organic ownership” of UAS capabilities is irrelevant in the context of the Joint fight and the Joint Forces Air Component Commander’s authority and responsibility to control Joint airspace. Homeland operations are also becoming increasingly important. We are working with all the Services and the Department of Transportation to establish Federal Aviation Administration Certifications for UA operations within approved civil airspace.

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## 5.7.3 Lead the National Security Space Enterprise

Our Nation depends on its space capabilities as an integral part of its military strength, industrial capability, and economic vitality. As DoD Executive Agency for Space, the Air Force will continue to ensure mission continuity in critical areas of communications, PNT, early warning, SSA, and ISR. We will also continue efforts to strengthen National Space integration and collaboration across DoD, with the intelligence community, our interagency partners and our international partners.

Of particular note are our efforts to strengthen America's space professionals and science and engineering workforce. These professionals will form the fundamental corps who will lead our space efforts to success in the future by integrating enterprise level architectures; designing, developing, acquiring, and fielding new systems; and operating in a dynamic and potentially contested environment.

Additionally, the Air Force is developing capabilities to quickly respond to the urgent needs of Combatant Commanders. Operationally Responsive Space (ORS) is a tiered capability consisting of spacecraft, launch vehicles, and terrestrial infrastructure employed in concert to deliver a range of space capabilities to responsively meet Combatant Commander requirements in times of war, conflict, or crisis.

Finally, the Air Force is committed to improving its space acquisitions, focusing on flexibility and affordability. Success in this endeavor depends on achievable requirements, appropriate resources, disciplined systems engineering, and effective program management. We focus all of these efforts through a disciplined block delivery approach tying together basic Science and Technology (S&T), technology development, systems development, and system production efforts so concepts first evaluated in S&T will enable a systematic transition from development to operations.

## 5.7.4 Lead Cyberspace Operational Development

Current and potential adversaries already operate in cyberspace, exploiting the low entry costs and minimal technological investment needed to inflict serious harm in and through cyberspace. State and non-state actors are already operating within cyberspace to gain asymmetric advantage.

In April 2007, Estonia was the victim of a barrage of cyber attacks which brought its technologically sophisticated government to a virtual standstill. Insurgents in Iraq, Afghanistan, and elsewhere exploit electronics and the electromagnetic spectrum to kill and maim through improvised explosive devices (IEDs) and propagate their message of hate to the world. Thus, the ability to inflict damage and cause strategic dislocation no longer requires significant capital investment, superior motivation and training, or technological prowess.

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We seek to deny our adversaries sanctuary in cyberspace while assuring our access to and freedom to operate in this domain. Our Nation's ability to achieve effects in air, in space, on land, and at sea depends on control of and freedom of maneuver in the cyber domain.

As part of a larger effort to address this need, the Air Force stood up a Provisional Air Force Cyberspace Command (AFCYBER) on 18 September 2007. Our current plan is to activate the AFCYBER MAJCOM on 1 October 2008. The newly designated AFCYBER will consolidate and integrate Air Force cyber capabilities to prepare them to function across the spectrum of conflict. These capabilities will include, but are not limited to: electronic warfare; network warfare; global command and control (C2) integration, and ISR enhancement.

We will continue to develop and implement plans for maturing cyber operations as an Air Force core competency. Our objective is to provide flexible options to national decision makers to deter, deny, disrupt, deceive, dissuade, and defeat adversaries through destructive and non-destructive, lethal and non-lethal means.

## 5.7.5 Assure Sustainable Energy

We are pursuing an aggressive energy strategy and are committed to meeting and surpassing the energy goals mandated by the Energy Policy Act of 2005 (EPA 05) and other national policies. We continue to pursue a variety of programs aimed at reducing our use of fossil fuels and controlling cost growth. Our vision emphasizes a culture in which all Airmen make energy conscious decisions. We aim to implement our vision with solutions that include alternate sources of domestic energy as well as an aggressive drive for greater efficiency in our facilities, vehicles, and aircraft.

Following Presidential direction to reduce dependence on foreign oil, the Air Force is aggressively pursuing a broad range of energy alternatives. As the DoD's leading consumer of jet fuel, we are currently engaged in evaluating alternative fuels and engine technologies leading to greater fuel efficiency. We have certified the B-52 to fly on a synthetic fuel blend, and are on track to certify the C-17 and B-1 in 2008, the F-22 in 2009, and the remainder of all of our aircraft expected to be certified by early 2011. In fact, on December 17, 2007 -- the 104th anniversary of the Wright Brothers' first flight at Kitty Hawk, NC -- a McChord AFB, Washington-based C-17 flew the first transcontinental flight on synthetic fuel (a 50/50 blend). The Air Force goal is to acquire 50% of its CONUS aviation fuel via a synthetic fuel blend utilizing domestic sources. Our intent is to require synthetic fuel purchases be sourced from environmentally-friendly suppliers with manufacturing facilities that engage in carbon dioxide capture and effective reuse. In addition, the Air Force is testing renewable fuel resources that will lower CO2 emissions significantly compared to petroleum. Other Air Force technology efforts continue to explore high-efficiency aerodynamic concepts, advanced gas turbines, and variable cycle engines providing higher performance and greater fuel efficiency.

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The Air Force is the renewable energy leader, and we seek to expand our portfolio through innovative public-private partnerships and evaluations of a wide range of energy proposals at several bases. Last year, the Air Force received the Presidential Award for Leadership in Federal Energy Management. The Air Force also continued to lead the Federal Government in green power purchases, with 37 bases meeting some portion of their base-wide electrical requirements from commercial sources of wind, solar, geothermal, or biomass. We reached full operating capacity – 14.5 megawatts – of the largest solar photovoltaic array in the Americas at Nellis AFB, Nevada. At Edwards AFB, California, Kirtland AFB, New Mexico, and Luke AFB, Arizona, we are exploring additional commercial-scale opportunities for solar power. On under-utilized land at Malstrom AFB, Montana, we are exploring the potential for a privately financed and operated coal-to-liquid plant. Finally, as a result of Congressional interest, we have begun considering the potential for small-scale nuclear power production on Air Force property. As energy leaders, the Air Force is engaging with allied and Coalition air force partners to share best practices, identify common issues and concerns, and ensure future, sustainable energy interoperability.

## 5.7.6 Maintain Science and Technology Leadership

True to our heritage over the past century of powered flight, the Air Force continues to maintain the most complex, diverse, and ambitious S&T portfolio of all the Services. History clearly demonstrates the broad benefits to America of our S&T efforts, in terms of military power, industrial capability, economic growth, educational richness, cultural wealth, and national prestige. Examples of these efforts include aerospace technology and propulsion, materials science, advanced computing and communications, atmospheric science, remote sensing, medicine, precision timing, weather forecasting, and satellite navigation. What has been good for the Air Force has been great for America. We are committed to building upon this heritage.

The Air Force S&T program develops, demonstrates, and tests technologies and advanced warfighting capabilities against the spectrum of 21st Century threats. As we continue to adapt to a volatile and uncertain world, today's focused investment in our S&T program will produce the future warfighting capabilities needed to ensure America's continued technological preeminence and military flexibility. Major Air Force S&T efforts include hypersonics, composites, propulsion, nanotechnology, small satellite technology, directed energy, and cyber technology.

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Additionally, Air Force S&T organizations work closely with the other Services, the Defense Advanced Research Projects Agency, Intelligence Community, and other Federal agencies, such as the National Aeronautics and Space Administration, as well as partner nations. Through these partnerships we leverage efforts, share information, and advance state-of-the-art technologies.

The Air Force S&T Program provides the necessary leadership and foundation for future Joint warfighting capabilities, focusing on dominance of the air, space, and cyberspace warfighting domains. Continued Air Force S&T leadership will be critical to maintaining the asymmetric military advantages and broad national benefits our Joint Team and the Nation have come to expect and enjoy.

# America's Airmen

U.S. security and prosperity are best assured when all the instruments of national power are orchestrated to work with other states to promote a stable and prosperous international system. The Air Force directly contributes to U.S. security by providing a unique array of sovereign options for decision makers. These options maximize our ability to assure friends and to dissuade and deter threats, large and small, across the spectrum of conflict. When opponents cannot be deterred, these options magnify the combat capability of Joint and Coalition forces and provide a variety of alternatives for our political leaders to choose from in pursuit of national objectives. We provide the Nation with its most lethal and proven force for defeating enemies across the broad range of threats we face.

By exploiting the synergies of air, space, and cyberspace, the Air Force provides our Nation with the capability to dominate across domains and expand the options available for our sister Services to dominate their respective domains. Implementing our strategy requires fielding a force of highly trained Airmen with a commanding edge in technology and a force structure with sufficient capacity to provide the assurance of U.S. presence. So long as Airmen maintain a global presence and hold significant advantages over potential opponents, we will continue to provide our Nation with the means to lead the fight for global stability and prosperity.

Our emphasis on assurance, dissuasion, and deterrence reflects our conviction that it is far better to convince potential adversaries to refrain from the use of military force than to have to defeat them in battle. Our success will be measured by conflicts averted as well as conflicts fought and won. But we must never forget that our ability to assure and deter ultimately flows directly from our unambiguous ability to overwhelm swiftly and decisively any adversary who elects to test us.

We are today honing America's edge. Our Airmen have sworn an oath to serve their country, and they are meeting and exceeding their wartime commitments. We remain focused on our Air Force priorities of winning today's fight, caring for our people, and preparing for tomorrow's challenges. We are assessing threats in an uncertain world, balancing our requirements within fiscal constraints, and managing risks as we endeavor to strengthen the asymmetric advantages our Nation and the Joint Team currently enjoy.

We will have neither the buffer of time nor the barrier of oceans in future conflicts. The Air Force's Regular component is smaller in February 2008 than the United States Army Air Forces was in December 1941. The character, tempo, and velocity of modern warfare already severely test our ability to adapt. Therefore, redefining the Air Force for the 21st Century is an urgent national security requirement – not a luxury we can defer.

America looks to Airmen to provide dominance that spans the air, space, and cyberspace warfighting domains. Our Airmen are fighting today's fight, while standing watch across

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the frontiers of technology and the future. They need your support today to defend the Nation from tomorrow's threats. Full funding and support for America's Airmen will ensure America's continued freedom of action; increase global awareness; reassure America's allies and strengthen our partnerships; reinforce our sovereign homeland defenses; and set conditions for Joint and Coalition success across the entire spectrum of human conflict and crisis.

**We imperil our security, our people, and our way of life if we fail to maintain and sharpen America's Edge – the Air Force-provided Global Vigilance, Global Reach and Global Power advantages which underwrite the defense and sovereignty of our Nation.**